AIR WORKSHOP

Sustainable Marine Resources and Biodiversity

By

Pablo Abaunza
Instituto Español de Oceanografía
1. OUTLINE

1. Basis to take into consideration

a. Sustainability of Marine resources – ecosystem approach. Sound science
b. Sustainability of local human communities exploiting marine resources
c. Contemplate activities in a broad spectrum
   1. Multidisciplinarity: Data science – big data, Marine ecology, Oceanographic conditions - observation, Management, Economy
   2. Geographical scope: Atlantic Ocean. Involvement of as many countries and teams as possible
   4. Coordination and involvement with other international organizations that work in the Atlantic Ocean, infrastructures and ongoing projects
   5. Project growth capacity
2. Proposal example: Tuna fisheries

TUNA BAIT BOAT FORECAST: TB4

OBJECTIVE:

Development of a fishery forecast system using the relationship between bait boat catch rates and oceanographic features.

Its application would provide immediate social and economic impacts

Main Product: Development of a free platform providing the forecast of tuna distribution, essential for a successful fishing activity

Other products: Development of fishery monitoring systems, modelling oceanographic and biological data, Fisheries and ecosystem management, big data analysis, obtention of fish products with added-value, capacity building
2. PROPOSAL EXAMPLE: Tuna fisheries

TUNA BAIT BOAT FORECAST: TB4

1) **Sustainability**
   - **Resources:**
     Tuna fisheries are of great importance worldwide. Potential for further exploitation of some stocks. Key species in the pelagic ecosystem, the biggest ecosystem of the world (unknown).

   - **Human activity:**
     Bait boat fishery is more artisanal than industrial, applied worldwide. Great social impact = local jobs.
2) Fishery dimension

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<tr>
<th>Country/BB catch</th>
<th>ALB</th>
<th>BET</th>
<th>BFT</th>
<th>SKJ</th>
<th>YFT</th>
<th>Total general</th>
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<td>157</td>
<td>24874</td>
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<tr>
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<td>771</td>
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<td>1177</td>
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<tr>
<td><strong>Total general</strong></td>
<td><strong>17349</strong></td>
<td><strong>6928</strong></td>
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<td><strong>53901</strong></td>
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<td><strong>90166</strong></td>
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</table>
2. PROPOSAL EXAMPLE : Tuna bait forecast TB4

2) Multidisciplinarity

2.1 Data collection ( = Big data base. Partially already available)

a) Fisheries control and monitoring system. Experience from EU Data Collection Framework. VMS, catches, market prices, biological information
b) Oceanographic data. Operational oceanography including remote sensing
c) Ecosystem information from research surveys and observers onboard

Offshore fishing activity
2. PROPOSAL EXAMPLE : Tuna bait forecast TB4

2) Multidisciplinarity

2.2 Modelling and Data Analysis (Initiated)

a) Modelling fish populations and fishing activities. Several challenges with migratory fish
b) Modelling the oceans. Dynamics of the oceanographic conditions. Oceanic fronts

c) Joint analysis Fishery- Oceanography. Modelling the pelagic ecosystem in the Atlantic Ocean. Forecasting of tuna distribution

2. PROPOSAL EXAMPLE: Tuna bait forecast TB4

3) Social Impact

a) Local economies related to fishing activities. Commercialization
b) Sound scientific results and methodologies.
c) Artisanal fisheries = high number of employess + added value of products due to sustainable practices.
d) Capacity building in relation with the different components of the project:
   - Monitoring and control of fishing activities (experience available)
   - Data gathering and treatment. Georeferenced data. Big data (""
   - Modelization and data analysis (""
   - Oceanic observational infrastructures (""
   - Management of fisheries and marine ecosystems (""

4) Coordination with international organizations
   - ICCAT
   - Oceanographic organizations
2. **PROPOSAL EXAMPLE : Tuna bait forecast TB4**

5) **Project growth capacity**

a) From stock modelling to ecosystem modelling  
b) Further integration between environmental and biological data  
c) Marketing logistics and industrial training  
d) Predictable margin of growth in fishing activity  
e) If the forecast system works well this will imply new management practices and industrial initiatives  
f) Tuna aquaculture development. Mediterranean and IEO experience.
Thank you for your attention